

Conference Abstract

Interactive Checklists to Increase Access to Urban Biodiversity Information in Guatemala

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Abstract

The Guatemala Biodiversity Portal (GBP) is a customized platform developed with Symbiota (Gries et al. 2014) for the digitization of local natural history collections and research projects (Orellana et al. 2023). Currently, the portal includes 42 virtual profiles for the live management of biodiversity data and already hosts more than 50,000 specimen and observation records. Additionally, over 400,000 records of Guatemalan specimens in international collections have been imported from other Symbiota portals and the Global Biodiversity Information Facility (GBIF), increasing accessibility to data from the country. A bilingual interface (English-Spanish), and integrated tools to generate interactive checklists (Pearson and Walker 2021) have also encouraged use of the portal to develop online resources to explore and share knowledge of Guatemalan biological diversity.

In particular, urban green spaces in Guatemala City have been a recent focus of attention due to their significance in biodiversity conservation (Castillo-Cabrera et al. 2021). Efforts to study and preserve these natural spaces include biological surveys to compile an

updated inventory of species and assess their conservation status. To increase access to the information obtained, observations and specimens (e.g., fauna, flora) are being digitized and managed in the GBP, granting instant availability of the records and images derived from the surveys. At the same time, data from protected or threatened species remains redacted from the general public. Complementary to the surveys in Guatemala City, a more extensive inventory of species is being generated with selected specimens and observations available in the GBP and GBIF. A series of interactive checklists in the GBP (Fig. 1) facilitate the management of the scientific names, digital vouchers, and annotations about known conservation status (CONAP 2022, IUCN 2024), establishment means, and references in the literature. Information gathered for each species is later added to the taxon pages in the GBP, to expand its accessibility.



Figure 1. View of the interactive checklist of urban biodiversity of Guatemala City managed in the Guatemala Biodiversity Portal. Available at: <https://biodiversidad.gt/portal/checklists/checklist.php?clid=12125>.

The integration of urban biodiversity data in the GBP allowed the generation of digital records that follow international standards (e.g., Darwin Core, Wiczorek et al. 2012) and FAIR (findable, accessible, interoperable, and reusable) principles (Wilkinson et al. 2016), facilitating their mobilization to global aggregators (GBIF.org 2024). Data cleaning tools (e.g., geographic and taxonomic cleaning, Pearson 2021) in the GBP also improved the information management, increasing the accuracy of each observation and specimen record digitized. Furthermore, the resulting interactive checklists provide a way to synthesize and review the data for the different taxa, having the opportunity to remain

constantly updated as sources of information become available. Therefore, curated species checklists for Guatemala City will become an important contribution and reference for related studies across the country. Similar to other regions (Yáñez-Ayabaca et al. 2023), accessibility to edit online biodiversity resources has opened the door for collaboration among Guatemalan biologists, engaging a broad community of researchers and students from national institutions. The presentation will address more about the functionality and effectiveness of interactive checklists, and the impact of online biodiversity resources in Guatemala.

Keywords

biological surveys, conservation, digitization, outreach, Symbiota, GBIF

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Conflicts of interest

The authors have declared that no competing interests exist.

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